NOVEMBER/DECEMBER 2023

CBT52 — INDUSTRIAL BIOTECHNOLOGY

Time : Three hours Maximum : 75 marks

SECTION A — (10 × 2 = 20 marks)

Answer ALL the questions.

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1. Recall the significance of industrial biotechnology.
2. Show how ethanol is produced commercially?
3. Name the microbial strains used for citric acid production.
4. Relate the process of beer production with microorganisms.
5. What are the general requirements of a bioreactor?
6. Contrast batch and continuous fermentation.
7. What is flocculation?
8. Interpret the term whey.
9. List the substrates used for enzyme production.
10. Explain the merits of biofertilizers.

SECTION B — (5 × 5 = 25 marks)

Answer ALL questions.

11. (a) Identify the commercial significance of vitamins.

Or

(b) Categorize the steps involved in production of citric acid.

12. (a) Identify the types of mutations.

Or

(b) Examine the rDNA techniques.

13. (a) Simplify the fed batch culture of microbes.

Or

(b) Analyze the different media used for microbial growth.

14. (a) Make use of the various methods employed for cell disruption.

Or

(b) Analyse the steps involved in liquid – liquid extraction.

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15. (a) Interpret the stages involved in mushroom cultivation.

Or

(b) Analyse the steps involved in production of yoghurt.

SECTION C — (3 × 10 = 30 marks)

Answer any THREE questions.

16. Explain the applications of enzymes in industries.

17. Explain the stages of protoplast fusion.

18. Appraise the methods of microbial culture.

19. Discuss the steps involved in downstream processing.

20. Elaborate on the production of cheese.

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